

Notice of Allowability

Application No.

09/523,446

Examiner

Yicun Wu

Applicant(s)

CHEN ET AL.

Art Unit

2175

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6-4-2004.
2. ☒ The allowed claim(s) is/are 2,3,7-13,15,29 and 30.
3. ☒ The drawings filed on 10 March 2000 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DIANE D. MIZRAHI
PRIMARY PATENT EXAMINER
TECHNOLOGY CENTER 2100

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Allowable subject Matter

1. Claims 2-3, 6-13, 15 and 29-30 are allowed over prior art made of records.
2. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record (Tuzhilin (U.S. Patent No. 6,236,978 B1) and Jiawei Han, ("Towards On-Line Analytical Mining in Large Databases," ACM SIGMOD Record, 27:1, pp. 97-107, 1998) does not disclose, teach or suggest the claimed limitations of (in combination with all other features in the claims):

retrieving records from the call table and based thereon generating a snapshot cube representing the records from the call table, the snapshot cube having predetermined dimensions; retrieving records from the profile table and based thereon generating a profile cube representing the records from the profile table, the profile cube having predetermined dimensions that are the same as the dimensions of the snapshot cube; merging the snapshot cube and the profile cube to generate an

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updated profile cube and deriving a volume-based calling pattern based on the updated profile cube, as claimed in claim 2.

The prior art of record (Tuzhilin (U.S. Patent No. 6,236,978 B1) and Jiawei Han, ("Towards On-Line Analytical Mining in Large Databases," ACM SIGMOD Record, 27:1, pp. 97-107, 1998) does not disclose, teach or suggest the claimed limitations of (in combination with all other features in the claims):

flagging a particular caller with the probability based calling pattern being analyzed as suspicious;

automatically generating an alert that specifies callers with suspicious probability-based calling pattern;

performing further investigation on callers with suspicious probability-based calling pattern;

cancellation of telephone services for callers with suspicious probability-based calling pattern; and

performing other appropriate remedial actions, as claimed in claims 3 and 29.

The prior art of record (Tuzhilin (U.S. Patent No. 6,236,978 B1) and Jiawei Han, ("Towards On-Line Analytical Mining in Large Databases," ACM SIGMOD Record, 27:1, pp. 97-107,

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1998) does not disclose, teach or suggest the claimed limitations of (in combination with all other features in the claims):

detecting telecommunication fraud by comparing known fraudulent profiles to caller pattern cubes; the profile engine further generating a profile cube from information selected from the profile table, generating a snapshot cube, updating the profile cube by merging the profile cube and the snapshot cube to generate art updated profile cube, and deriving a calling pattern cube based on the updated profile cube; wherein the profile engine is a scalable computation engine that is implemented by OLAP programming supported by the OLAP server, as claimed in claim 15.

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Points of contact

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yicun Wu whose telephone number is 703-305-4889. The examiner can normally be reached on 8:00 am to 4:30 pm, Monday -Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on 703-305-3830. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-746-7240 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Yicun Wu
Patent Examiner
Technology Center 2100

September 17, 2004

DIANE D. MIZUKI
PRIMARY PATENT EXAMINER
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